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## 2011 ANNUAL WATER QUALITY REPORT

Dear Consumer:

The City of Yonkers' Bureau of Water is pleased to present our Annual Report describing the quality of your drinking water. This report provides an overview of our drinking water quality for calendar year 2011. Included are details about where your water comes from, how it is treated, the importance of conservation and source water protection, what it contains and how it compares to State Standards. The City of Yonkers is proud to report that in calendar year 2011 our Water System was in compliance with all State and Federal Drinking Water Regulations except for one chlorine residual monitoring violation on May 16, 2011. For information about this report or any other drinking water issue you would like to personally discuss, please contact Mary Anne Wyatt-Dolan, Assistant Superintendent of Water, at (914) 377-6764. For more information about contaminants and potential health effects call the [Westchester County Department of Health at \(914\) 813-5000](http://www.westchestercountyhealth.org). More information is also available on the World Wide Web at <http://www.awwa.org>.

### **Where does our water come from?**

The City of Yonkers obtains its drinking water from New York City Water Supply System, an unfiltered surface water. Most of this water originates from two protected watershed areas, the Catskill and Delaware, located west of the Hudson River in upstate New York. The New York City Department of Environmental Protection's (NYC DEP) Bureau of Water Supply, Quality and Protection oversees the operation, maintenance and protection of this upstate reservoir system; consisting of 19 reservoirs and 3 controlled lakes. On average over a billion gallons per day of water travels down through two NYC DEP owned and operated aqueduct (tunnel) systems, the Catskill and Delaware, to feed the Kensico Reservoir located in Westchester County. Under normal operations the waters are blended here before traveling further south to the NYC Hillview Reservoir located in Yonkers, New York. Before the water arrives at the Hillview Reservoir it enters our system at several locations. In addition, water also enters the Yonkers' System from the Westchester County Water District #1 (WCWD #1) Kensico Line. From these points of entry, the water enters 374 miles of distribution piping to serve the 195,976 residents of the City of Yonkers through 31,283 metered service connections.

### **Source Water Assessment Findings**

The New York State Department of Health (NYSDOH) has evaluated the susceptibility of water supplies statewide to potential contamination under the Source Water Assessment Program (SWAP). Summarized in the paragraphs below are their findings related to our source of supply the Catskill/Delaware watersheds. It is important to stress that these assessments were created using available information and only estimate the potential for source water contamination. Furthermore, elevated susceptibility ratings do not mean that source water contamination has or will occur for this Public Water System (PWS). Please be advised this PWS provides treatment and regular monitoring to ensure the water delivered to consumers meets all applicable standards. Specifically the reservoirs in the Catskill/Delaware watersheds, a mountainous rural area, are relatively deep with little development along their shorelines. The main water quality concerns associated with land cover is agriculture, which can contribute microbial contaminants, pesticides and algae producing nutrients. There are also some potential contamination concerns associated with residential lands and associated wastewater discharges. However, advanced treatments which reduce contaminants are in place for most of these discharges. There are also a number of other discrete facilities, such as landfills, chemical bulk storages, etc. that have the potential to impact local water quality, but large significant water quality problems associated with these facilities are unlikely due to the size of the watershed and surveillance and management practices. Furthermore, the NYC DEP has implemented a series of programs to evaluate and protect source water quality within these watersheds. Their efforts focus on three important program areas: the enforcement of strengthened watershed rules and regulations; the acquisition and protection of watershed lands; and implementation partnership programs that target specific sources of pollution in the watersheds. Additional information on the water quality and protection efforts in these New York City watersheds can be found at DEP's web site at [http://www.nyc.gov/html/dep/html/watershed\\_protection/index.shtml](http://www.nyc.gov/html/dep/html/watershed_protection/index.shtml).

### **Facts and Figures**

In 2011, a total of 9.93 billion gallons of water entered our distribution system. Of that total, 7.79 billion was purchased from New York City, 2.14 billion from WCWD #1 and 5.78 million from the Town of Greenburgh. This yielded an average daily citywide consumption of 27.2 million gallons with an average daily per capita usage of 135.1 gallons. Approximately 90 % of the total amount of water that entered our system was billed directly to customers. The balance, or unaccounted for water [10 %], was used for fire fighting purposes, hydrant flushings to maintain water quality, hydrant use for street sweeping and new water main installation, distribution system leaks (main breaks and service leaks) and unauthorized use. In 2011, the average annual water bill for a family of 4 ranged between \$300-\$400. Residential water rates in the City of Yonkers were increased on July 1, 2011 from \$1.54 to \$1.85 per 100 cubic feet (748 gallons) however, they are still among the lowest in Westchester County.

### **How is the City of Yonkers' Water Treated?**

The water obtained from the New York City Aqueducts is initially treated upstream at the Kensico Reservoir by the NYC DEP, with the addition of chlorine, to comply with New York State and Federal disinfection requirements and fluoridated with a low level of fluoride, 1.0 mg/L, pursuant to the NYC Health Code Article 141. According to the US Centers for Disease Control and Prevention (CDC), fluoride is very effective in preventing cavities when present in drinking water at an optimal range from 0.7 to 1.2 mg/L [parts per million]. However, since Americans have access to more sources of fluoride today than they did when fluoridation was first introduced the US Department of Health & Human Services (HHS) on January 7, 2011 proposed that the recommended level of fluoride in drinking water can be set at the lowest end of the current optimal range. In 2011 the NYSDOH, after reviewing the HHS recommendation and the EPA's exposure assessments, concurred that water suppliers in NYS could reduce their optimal target fluoride dose to 0.8mg/L. Based on these developments, the NYC Dept. of Health & Mental Hygiene authorized the NYC DEP to lower the target dose for fluoride to 0.8 mg/L. This dosage change took effect February 14, 2012. To ensure that the fluoride supplement in your water provides optimal dental protection, the NYSDOH requires that the NYC DEP monitor fluoride levels on a daily basis. During 2011, fluoride was not continuously supplied in the NYC Catskill and Delaware Systems due to maintenance on the fluoride feed system and aqueduct construction activities. Fluoridation on the Catskill System was offline 7% of the time while fluoridation on the Delaware System was offline 20% of the time. The longest period of interruption was 106 days, from March 15, 2011 through June 28, 2011. According to the NYS Dental Association these brief interruptions in fluoridation are not expected to have a significant impact on dental health. Outside of this time period, DEP met the required fluoride levels more than 85% of the time and at no time did the fluoride level approach the fluoride maximum contaminant level (MCL) of 2.2 mg/L. Meanwhile, the water that enters the Yonkers' System from the WCWD #1 Kensico Line is initially treated upstream, at Kensico by Water District #1, with the addition of sodium hypochlorite to meet New York State and Federal disinfection requirements and sodium hydroxide and a liquid blended orthophosphate to meet New York State and Federal Corrosion Control Regulations. Consequently, during calendar year 2011 the high service sector of northeast Yonkers, located along the east and west corridor of Central Park Avenue north of Palmer Road, received unfluoridated water. Therefore, these residents may want to discuss with their family dentist if some other form of fluoride supplement should be considered for dental protection. You can confirm if your area is receiving unfluoridated water by calling the [Water Bureau at \(914\) 377-6765](http://www.waterbureau.org). Before all this water enters our distribution system, it is again treated at our points of entry with chlorine gas, to provide a detectable chlorine residual throughout the distribution system, and corrosion control treatment; the addition of sodium hydroxide (caustic soda), to raise the natural pH of the source water, along with the addition of food grade phosphoric acid (as orthophosphate), to coat the interior surface of the pipe walls [especially lead pipes and surfaces], in order to control the amount of lead and copper released into the consumer's tap water from household plumbing and lead service lines.

### **Capital Improvements**

In our continuing efforts to improve and maintain our Water Bureau's infrastructure and to comply with existing and future State and Federal Regulations, the City of Yonkers' Bureau of Water implemented the following capital improvement projects during calendar year 2011: Completed the rehabilitation [cleaning, repair and painting] of our Southern Westchester Executive Park [SWEP] elevated water storage tower. This work was performed in order to extend the existing tank's life expectancy. Installed and placed into service 5,868 lineal feet of 20 inch diameter water main, 1,438 lineal feet of 12 inch diameter water main, 490 lineal feet of 16 inch diameter water main and 13 lineal feet of 18 inch diameter water main along the North Broadway corridor between High Street and Ashburton Avenue and on Ashburton Avenue between North Broadway and Palisade Avenue. With the completion of this project customers along North Broadway, from Gateway Road to Ashburton Avenue, have improved domestic pressure and fire flow availability. Replaced several inoperable isolation valves on the large diameter (30 inch, 24 inch, 18 inch and 16 inch) transmission mains along the Saw Mill River Road corridor between Palmer Road and Ashburton Avenue. Relocated several distribution mains in Larkin Plaza as part of the Saw Mill River Day Lighting Project. Installed 1,400 lineal feet of 8 inch and 590 lineal feet of 12 inch diameter water mains on Corporate Park Boulevard and Odell Terrace to sustain the increased development in Southern Westchester Executive Park. To improve fire flow protection on Purser Place, 450 lineal feet of 8 inch diameter water main was installed between the dead end of Purser Place and Riverdale Avenue. Installed 900 lineal feet of 12 inch diameter water main on Vineyard Avenue, between Whelan Place and Myrtle Street, and 700 lineal feet of 8 inch diameter water main on Whetstone, between Whelan Place and Vineyard Avenue, in accordance with Phase I of the redevelopment of Mulford Gardens. Furthermore, on August 29, 2011 one of the Water System's primary Pumping Stations sustained significant damage due to massive flooding from tropical storm Irene. To restore full pumping capacity to the Station a temporary main service disconnect switch, electrical meter, electrical distribution system and variable frequency drive motor starters were installed. Due to the skill and professionalism of the COY's personnel and professional Contractors and the COY's emergency resources water delivery, quality and fire protection were never compromised. Finally, during calendar year 2011 the Water Bureau inspected 598 fire hydrants, repaired 175 and replaced 94 inoperable hydrants as part of its ongoing Hydrant Replacement Program. This program ensures that the Fire Department has operational hydrants for fire protection. Water Bureau personnel also repaired 46 main breaks, replaced 67 inoperable gate valves, replaced/installed 195 water meters, investigated 832 leaks, installed 35 water taps and 11 wet connections and performed 2,463 code 753 mark outs of the City's underground water mains, requests made by other underground utilities prior to their digging. The following capital improvement projects are scheduled for calendar year 2012: Commence the construction phase of major electrical and pumping capital improvement upgrades at our Water Pumping Facilities which include: the installation of a new electrical service and power distribution system, transformers, switch gears, motor control panels and high efficiency

variable frequency drive water pumps. Perform a city-wide leak detection survey. This study will identify system water losses occurring from undetected leaks. The subsequent repair of these undetected leaks will reduce the City's unaccounted for water losses and water purchase costs.

Health Information

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the *EPA's Safe Drinking Water Hotline (1-800-426-4791)* or [contacting them on the World Wide Web at http://water.epa.gov/drink/index.cfm](#). The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include: microbial contaminants; inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants. In order to ensure that tap water is safe to drink, the State and the EPA prescribe regulations, which limit the amount of certain contaminants in water provided by public water systems. The State Health Department and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Do I Need To Take Special Precautions?

Some people may be more vulnerable to disease causing microorganisms or pathogens in drinking water than the general population. Immune-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice from their health care provider about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia and other microbial pathogens are available from the *Safe Drinking Water Hotline 1-800-426-4791* or [http://water.epa.gov/drink/info/index.cfm](#).

Information on Cryptosporidium and Giardia

Cryptosporidium (a protozoan) is a microbial pathogen found in surface water and groundwater under the influence of surface water. Federal and State Law require all water suppliers to notify their customers about the potential risks of Cryptosporidium. During 2011, as part of routine and enhanced monitoring, NYC collected 119, fifty liter volume, samples from their Catskill and Delaware Aqueduct effluents at the Kensico Reservoir and analyzed them for Cryptosporidium oocysts. In these samples, 3 Cryptosporidium oocysts were detected. Therefore, testing indicates the presence of Cryptosporidium in our source water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. The method also cannot distinguish among different species of Cryptosporidium, only a few of which can infect humans. Ingestion of Cryptosporidium may cause cryptosporidiosis, a gastrointestinal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing a life-threatening illness. We encourage immuno-compromised individuals to consult their health care provider regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water. Giardia (a protozoan) is another microbial pathogen present in varying concentrations in many surface waters and groundwater under the influence of surface water. Giardia is removed/inactivated through a combination of filtration and disinfection or by disinfection alone. During 2011, as part of routine and enhanced monitoring, NYC collected 119, fifty liter volume, samples from their Catskill and Delaware Aqueduct effluents at the Kensico Reservoir, and analyzed them for Giardia cysts. In these samples, 202 Giardia cysts were detected. Therefore, testing indicates the presence of Giardia in our source water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Please be advised, that in 2011, the City of Yonkers complied with both State and Federal disinfection requirements to ensure that the Giardia cysts, found in our source water, were satisfactorily inactivated before the water reached our 1<sup>st</sup> customer's service connection except for three instances: 8/29/11, 9/15/11 and 10/30/11. On these 3 days, the Contact Time (CT) Inactivation Ratio was not achieved for an average of 4 hours each day at our Kensico Treated/Crisfield High Service Entry Point, which services the high service sector of northeast Yonkers, due to chlorination interruptions by WCWD #1 at Kensico Dam. Please be advised, that these exceptions did not constitute a public health hazard or violation because Federal and State Regulations allow up to one failure per month. Ingestion of Giardia may cause giardiasis, an intestinal illness. People exposed to Giardia may experience mild or severe diarrhea, or in some instances, no symptoms at all. Fever is rarely present. Occasionally, some individuals will have chronic diarrhea over several weeks or a month, with significant weight loss. Giardiasis can be treated with anti-parasitic medication. Individuals with weakened immune systems should consult with their health care providers about what steps would best reduce their risks of becoming infected with giardiasis. Individuals who think that they may have been exposed to Giardia should contact their health care providers immediately. The Giardia parasite is passed in the feces of an infected person or animal and may contaminate water or food. Person to person transmission may also occur in day care centers or other similar settings where hand washing practices are poor. Additional information on Cryptosporidium and Giardia can be found on NYCDEP's website at [http://www.nyc.gov/html/dep/html/drinking\\_water/pathogen.shtml](#).

Water Quality

The New York State Sanitary Code and the EPA require us to test our water on a regular basis to ensure its safety. Every day, throughout the City, Water Department personnel conduct tests to monitor the quality of our drinking water. Most of the required compliance monitoring for the City of Yonkers, including daily bacteriological analyses, physical, inorganic, Trihalomethanes (THMs), a Disinfection Byproduct, and trace metal analyses are performed by the City of Yonkers, Bureau of Water's NELAC accredited Environmental Laboratory, NYS Lab ID No. 10176. Other required monitoring tests (e.g. Synthetic Organic Contaminants including pesticides and herbicides, Radiological Contaminants, Volatile Organic Contaminants and Haloacetic Acids (HAA5s), a Disinfection Byproduct) are conducted by New York State Certified Laboratories. Last year Water Department Personnel collected 12,000 water samples. From those samples, tests were conducted for 165 different water contaminants. Of the 165 contaminants monitored, 26 were detected as denoted in this report.

How to Read the Tables

The tables below list the names and the amounts of all the drinking water contaminants that were detected during the 2011 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. The data presented in this report is from the most recent testing done in accordance with regulations. Unless otherwise noted, the data presented in these tables is from testing done from January 1, 2011 to December 31, 2011. Oftentimes, the state requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Therefore, some of the data, though representative of the water quality, is more than one year old.

The following definitions will assist you in your interpretation of the data:

**Maximum Contaminant Level or MCL:** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

**Maximum Contaminant Level Goal or MCLG:** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**Action Level (AL):** The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

**Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.

**Variances and Exemptions:** State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

**90<sup>th</sup> Percentile Value:** The values reported for lead and copper represent the 90<sup>th</sup> percentile. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90<sup>th</sup> percentile is equal to or greater than 90% of the lead and copper concentrations detected in our water system.

**Maximum Residual Disinfectant Level (MRDL):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**Maximum Residual Disinfectant Level Goal (MRDLG):** The level of a drinking water disinfectant below which there is no known or expected risk to health.

KEY TO TABLES	
AL = Action Level	NDL= No Designated Limits
EP = Entry Point; last point of treatment before first customer connection.	NTU = Nephelometric Turbidity Units; a measure of the clarity of water.
GT = Greater Than	pCi/L = picocuries per liter; a measure of radioactivity in water.
LT = Less Than	ppb = parts per billion or micrograms per liter (ug/L)
MCL = Maximum Contaminant Level	ppm = parts per million or milligrams per liter (mg/L)
MCLG = Maximum Contaminant Level Goal	TT = Treatment Technique
MRDL = Maximum Residual Disinfectant Level; effective January 2002.	uS/cm = microsiemens per centimeter; a measure of the ability to conduct current.
N/A = Not Applicable	1/cm = inverse centimeter
ND = Not Detected	To go from ppm (mg/L) to ppb (ug/L) multiply ppm level by 1000.

WATER QUALITY PARAMETERS USED TO ASSESS CORROSION CONTROL TREATMENT

Contaminant	Date Tested	Unit	MCL	MCLG	Max. Level Detected	Range of Detected Levels	Major Sources	Violation
pH (Hydrogen Ion) - <i>EP Distribution System</i>	2011	units	NDL	N/A	7.49 7.67	6.18 – 7.96 7.00 – 7.67	Impacted by acid rain and the addition of water treatment chemicals.	No
Total Alkalinity – <i>EP Distribution System</i>	2011	mg/L	NDL	N/A	LT 20(18.0) 22.4	LT 20 (9.2) – 24.0 LT 20 (14.0) – 22.4	Erosion of soil and rock formations. Impacted by Water Treatment chemicals.	No
Conductivity – <i>EP Distribution System</i>	2011	uS/cm	NDL	N/A	90.1 115	60.0 – 115 71.0 – 115	Presence of ions due to erosion of natural deposits.	No
Water Temperature– <i>EP Distribution System</i>	2011	°C	NDL	N/A	10.1 21.0	2.0 – 21.5 4.5 – 21.0		No
<sup>1</sup> Calcium – <i>EP Distribution System</i>	2011	ppm	NDL	N/A	5.85 6.41	4.65 – 6.41 4.81 – 6.41	Erosion of soil and rock formations.	No
Orthophosphate as P- <i>EP Distribution System</i>	2011	ppm	NDL	N/A	1.76 1.94	LT 0.200 – 2.47 0.444 – 1.94	Water treatment chemical added to reduce the release of lead from household plumbing.	No

<sup>1</sup> Calcium contributes to the total hardness of water. The total hardness of our drinking water is ≅ 20.0 mg/L as CaCO<sub>3</sub>. This is considered soft. In general surface waters, such as the NYC water supply, are softer than groundwater [well waters].

REGULATED INORGANIC AND PHYSICAL CONTAMINANTS								
Contaminant	Date Tested	Unit	MCL	MCLG	Max. Level Detected	Range of Detected Levels	Major Sources	Violation
Aluminum	July 2011	ppb	NDL	N/A	19.8	11.9 – 19.8	Erosion of natural deposits	No
Barium	July 2011	ppb	2000	2000	19.5	17.3 – 19.5	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.	No
Chloride	Aug. 2011	ppm	250.0	N/A	12.5	8.38 – 12.5	Naturally occurring or indicative of road salt contamination.	No
Chlorine, Free <i>Entry Point Distribution System</i> Disinfectant Residual	2011	ppm	MRDL 4.0	MRDLG 4	1.54 Average 1.24 Average	0.64 – 2.12 0.06 – 1.92	Water additive used to control microbes.	<b>Yes</b> Monitoring Violation
Color Apparent	Oct. 2011	Units	15	N/A	15	2.5 – 15	Presence of metals, copper, iron, manganese and decaying leaves, plants and soil organic matter.	No
Copper	June – Sept. 2009	ppm	AL=1.3	1.3	<sup>2</sup> 0.191	0.019 – 0.939	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.	No
Fluoride	2011	ppm	2.2	N/A	<sup>3</sup> 1.06	LT 0.20 – 1.34	Erosion of natural deposits; water additive, which promotes strong teeth; discharge from fertilizer and aluminum factories.	No
<sup>4</sup> Iron	July 2011	ppb	300	N/A	29.2	LT 20.0 – 29.2	Erosion of soils and natural deposits, corrosion of the interior walls of water mains.	No
Lead	June – Sept. 2009	ppb	AL=15	0	<sup>5</sup> 9.86	LT 1.00 – 26.2	Corrosion of household plumbing systems; erosion of natural deposits.	No
<sup>4</sup> Manganese	July 2011	ppb	300	N/A	12.4	LT 10.0 – 12.4	Erosion of soils and natural deposits.	No
Nickel	July 2011	ppb	NDL	NDL	0.289	0.270 – 0.289	Erosion of natural deposits.	No
Nitrate mg/L as Nitrogen	March 2011	ppm	10	10	0.195	0.182 – 0.195	Run off from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.	No
pH (Hydrogen Ion)	2011	Units	NDL	N/A	<sup>3</sup> 7.49	6.19 – 8.94	Impacted by acid rain & the addition of water treatment chemicals.	No
<sup>6</sup> Sodium	July 2011	ppm	NDL	N/A	9.30	8.72 – 9.30	Naturally occurring; road salt.	No
Sulfate	Aug. 2011	ppm	250.0	N/A	5.18	3.98 – 5.18	Naturally occurring.	No
<sup>7</sup> Total Coliform Bacteria	2011	% Samples in any 1 month	GT 5%	0	0.7% May 2011 1 Positive Sample	N/A	Naturally present in the environment.	No
<sup>8</sup> Turbidity <i>Entry Point Distribution System</i>	Jan. 2011 Jan. 2011	NTU	TT ≤ 5 5	N/A	4.25 1.94	0.38 – 4.25 0.86 – 1.94	Soil run off	No

REGULATED ORGANIC CONTAMINANTS

Contaminant	Date Tested	Unit	MCL	MCLG	Level Detected	Range of Detected Levels	Major Sources	Violation
<sup>9</sup> TTHMs Total Trihalomethanes Disinfection Byproducts	2011 Quarterly Monitoring	ppb	80	<sup>10</sup> N/A	40.0 Running Annual Average	28.1 – 57.5	By-product of drinking water chlorination.	No
<sup>11</sup> HAA5 Total Haloacetic Acids (5) Disinfection Byproducts	2011 Quarterly Monitoring	ppb	60	<sup>10</sup> N/A	47.1 Running Annual Average	31 – 73	By-product of drinking water chlorination.	No
bis (2-Ethylhexyl) adipate Synthetic Organic Contaminant	Oct. 2011	ppb	50	N/A	0.83	0.76 – 0.83	Discharge from chemical factories.	No

On January 11, 2006 the EPA published Stage 2 of the Disinfectants and Disinfection Byproduct Rule (Stage 2 DBPR). This rule was promulgated to better protect the public health by reducing their exposure to Disinfection Byproducts (Trihalomethanes and Haloacetic Acids). In accordance with the Initial Distribution System Evaluation (IDSE) requirements in Stage 2 DBPR, the City of Yonkers chose to conduct a system specific study using a hydraulic model. In 2008, during the month of highest historic water temperature and DBP formation, one round of IDSE monitoring was performed to validate the calibrated model. Stage 2 DBPR Compliance Monitoring goes into effect on May 10, 2012.

Additional Contaminants Monitored But Not Detected

The inorganic contaminant asbestos was not detected in calendar year 2009’s monitoring of the vulnerable locations within the City of Yonkers’ distribution system. The *Inorganic contaminants* monitored at the points of entry to our system but not detected in calendar year 2011 include: antimony, arsenic, beryllium, cadmium, cyanide, mercury, nitrite, selenium, silver, thallium, total chromium and zinc. *Organic contaminants (Pesticides, Herbicides, Dioxin, Unregulated and PCB’s)* monitored in our source waters but not detected in calendar year 2011 include: Alachlor, Aldicarb, Aldicarb sulfoxide, Aldicarb sulfone, Atrazine, Carbofuran, Chlordane, 2,4-D, Endrin, Heptachlor, Heptachlor epoxide, Lindane, Methoxychlor, Polychlorinated biphenyls (PCB’s), Pentachlorophenol, Toxaphene, 2,4,5-T, Silvex, Aldrin, Benzo (a) pyrene, Butachlor, Carbaryl, Dalapon, bis (2-Ethylhexyl) phthalate, Dicamba, Dieldrin, Dinoseb, Hexachlorobenzene, Hexachlorocyclopentadiene, 3-Hydroxycarbofuran, Methomyl, Metolachlor, Metribuzin, Oxamyl vydate, Picloram, Propachlor, Simazine and Methyl tert-butyl ether(MTBE). The *Principal* and *Unspecified Organic contaminants* that were monitored for and not detected in our source waters include: Bromoform, Dibromochloromethane, Benzene, Bromobenzene, Bromochloromethane, Bromomethane, N-Butylbenzene, sec-Butylbenzene, tert-Butylbenzene, Carbon Tetrachloride, Chlorobenzene, Chloroethane, Chloromethane, 2-Chlorotoluene, 4-Chlorotoluene, Dibromomethane, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Dichlorodifluoromethane, 1,1-Dichloroethane, 1,2-Dichloroethane, 1,1-Dichloroethene, cis-1,2-Dichloroethene, trans-1,2-Dichloroethene, 1,2-Dichloropropane, 1,3-Dichloropropane, 2,2-Dichloropropane, 1,1-Dichloropropene, cis-1,3-Dichloropropene, trans-1,3-Dichloropropene, Ethylbenzene, Hexachlorobutadiene, Isopropylbenzene, p-Isopropyltoluene, Methylene Chloride, n-Propylbenzene, Styrene, 1,1,1,2-Tetrachloroethane, 1,1,2,2-Tetrachloroethane, Tetrachloroethene, Toluene, 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, Trichloroethene, Trichlorofluoromethane, 1,2,3-Trichloropropane, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, m-Xylene, o-Xylene, p-Xylene, 2-butanone(MEK), 4 Methyl-2-pentanone (MIBK), Naphthalene, Vinyl chloride. In accordance with the US EPA’s Unregulated Contaminant Monitoring Regulation (UCMR 2) WCWD #1, in calendar year 2008, tested and did not detect the following 25 contaminants in their source water effluent from the Kensico Reservoir: Dimethoate and Terbufos sulfone, an *insecticide and degradate*; five *Flame Retardants*, 2,2’,4,4’-tetrabromodiphenyl ether, 2,2’,4,4’,5-pentabromodiphenyl ether, 2,2’,4,4’,5,5’-hexabromodiphenyl ether, 2,2’,4,4’,6-pentabromodiphenyl ether, 2,2’,4,4’,5,5’-hexabromobiphenyl; three *Explosives*, TNT, 1,3-dinitrobenzene and RDX; three *Acetanilide Herbicides*, Acetochlor, Alachlor and Metolachlor; six *Acetanilide Degradates*, Acetochlor ethane sulfonic acid, Acetochlor oxanilic acid, Alachlor ethane sulfonic acid, Alachlor oxanilic acid, Metolachlor ethane sulfonic acid, Metolachlor oxanilic acid and six *Nitrosamines*, N-nitroso-diethylamine, N-nitroso-dimethylamine, N-nitroso-di-n-butylamine, N-nitroso-di-n-propylamine, N-nitroso-methylethylamine and N-nitroso-pyrrolidine. In calendar year 2009 the following seven UCMR 1 contaminants were tested and not detected as part of our annual source water organic contaminant monitoring: 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, Acetochlor, 4,4-DDE, EPTC, Molinate and Terbacil. The purpose of UCMR 1 and 2 monitoring is to provide assessment and occurrence data to support future decisions concerning the regulation of these contaminants. In accordance with USEPA’s Long Term 2 Enhanced Surface Water Treatment Rule, WCWD #1 performed monthly Cryptosporidium Monitoring in calendar year 2009 on their source water from Kensico Dam. In the 12 samples collected no Cryptosporidium oocysts were detected. Furthermore, in calendar year 2011, the bacteria Escherichia coli (E. coli), used to monitor the microbiological quality of the City of Yonkers’ Water Distribution System, was not detected. In 2010 the NYS Department of Health [NYS DOH] waived the source monitoring requirement [every 18 months] for the following Pesticides, Herbicides and Dioxin: 1,2-Dibromo-3-chloropropane, Ethylene Dibromide [1,2-Dibromoethane], Diquat, Endothall, Glyphosate and 2, 3, 7, 8-TCDD [Dioxin]. The NYS DOH has determined that the NYC DEP’s source waters are not vulnerable to contamination by these compounds.

<sup>2</sup> The level presented represents the 90<sup>th</sup> percentile concentration of the 52 first draw residential tap samples collected between June 1, 2009 and September 30, 2009. The 90<sup>th</sup> percentile value was the 47<sup>th</sup> ascending copper concentration of the 52 samples collected. The Action Level for copper was not exceeded at any of the sites tested.

<sup>3</sup> The reported maximum level detected is the highest average observed in calendar year 2011 at anyone of our Entry Points.

<sup>4</sup> If Iron and Manganese are present, the total concentration of both should not exceed 500 ppb.

<sup>5</sup> The level presented represents the 90<sup>th</sup> percentile concentration of the 52 first draw residential tap samples collected between June 1, 2009 and September 30, 2009. The 90<sup>th</sup> percentile value was the 47<sup>th</sup> ascending lead concentration of the 52 samples collected. The Action Level for lead was exceeded at three of the sites tested.

<sup>6</sup> Water containing more than 20 ppm should not be used for drinking by people on severely restricted sodium diets. Water containing more than 270 ppm of sodium should not be used for drinking by people on moderately restricted sodium diets.

<sup>7</sup> Coliforms are bacteria, which are naturally present in the environment. They are used as indicators that other, potentially harmful, bacteria may be present.

<sup>8</sup> Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality. High Turbidity can hinder the effectiveness of disinfectants. Entry Point data are single turbidity measurements whereas, the Distribution System data is representative of the monthly distribution sample average.

<sup>9</sup> TTHM is the sum of the concentration of chloroform, bromodichloromethane, dibromochloromethane and bromoform. These compounds have the potential to form as a result of chlorine (the disinfectant added to our drinking water) combining with the natural organics in water. The reported level detected, 40.0 ug/L, is the running annual average calculated from quarterly data results collected in calendar year 2011. Compliance is based on the average of 4 quarters of sampling results in accordance with Stage 1 of the DBPR.

<sup>10</sup> There is no collective MCLG for this contaminant group.

<sup>11</sup> HAA5 is the sum of the concentration of mono-, di- and trichloroacetic acids and mono- and dibromoacetic acids. They have the potential to form as a result of chlorine (the disinfectant added to our drinking water) combining with the natural organics in water. The reported level detected, 47.1 ug/L, is the running annual average calculated from quarterly data results collected in calendar year 2011. Compliance is based on the average of 4 quarters of sampling results in accordance with Stage 1 of the DBPR.



What Does This Information Mean?

In accordance with State and Federal Drinking water regulations the City of Yonkers is required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. During calendar year 2011 the City of Yonkers was issued one monitoring violation by the NYSDOH for failure to comply on May 16, 2011 with subpart 5-1 section 5-1.52 Table 15 of the NYS Sanitary Code (NYSSC). Yonkers' Water Bureau personnel failed to obtain a 12 pm 4 hour chlorine residual grab sample at the Water System's Tuckahoe Road Entry Point when the Station's continuous chlorine analyzer failed to operate. Although grab sample chlorine residuals were obtained on May 16, 2011 at 8:00am, 1.42 mg/L, and 4:00pm, 1.5 mg/L, we can not be sure, due to the absence of the 12 pm reading, that the Entry Point's chlorine residual was not less than 0.2 mg/L for more than 4 hours and therefore the quality of the water at that time. Through our testing we have learned that some contaminants have been detected; however these contaminants were detected at levels below New York State requirements. Since the lead concentration exceeded the Action Level of 15 ppb in more than 5% of the sites sampled in calendar year 2009 we are required to present the following information on lead in drinking water. Pregnant women, infants and young children are typically more vulnerable to lead in drinking water than the general population. Elevated levels of lead can cause serious health problems. The City of Yonkers is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. Therefore, it is possible that lead levels in your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated levels in your home water, you may wish to have it tested. To reduce your exposure to lead in drinking water, flush your cold water tap for 30 seconds to 2 minutes before using water that has been standing in the pipes for several hours. Use only cold water for cooking, drinking and making baby formula. Additional information is available from the *Safe Drinking Water Hotline 1-800-426-4791* or <http://water.epa.gov/drink/info/lead/index.cfm> and the *Westchester County Health Department, Childhood Lead Poisoning Prevention Program (914) 813-5240*.

Is Our Water System Meeting Other Rules That Govern Operations?

The City of Yonkers is proud to report that in calendar year 2011 the City's Water System was in compliance with all applicable State and Federal Drinking Water requirements except for 5/16/11's chlorine residual monitoring violation and NYCDEP's reported turbidity monitoring violations on 1/31/11 and 2/1/11 through 2/11/11. In accordance with Table 10A in section 5-1.52 of subpart 5-1 of the NYSSC the NYCDEP ia required to monitor its unfiltered source water turbidity every 4 hours. However, due to non-routine operational changes taking place at the Kensico Reservoir on 1/31/11 and 2/1/11 through 2/11/11, the source water turbidity samples collected those days, at one of NYCDEP's Kensico Reservoir sampling locations, were not representative of the source water entering their system. Based on extensive water quality monitoring, performed downstream those days by the NYCDEP, these turbidity monitoring violations were not likely to impact the public health.

Variances, Exemptions

In accordance with the 1986 Federal Surface Water Treatment Rule (SWTR), surface water supplies, such as the New York City Water Supply, were required by June 29, 1993 to implement specific water treatment techniques (filtration and/or disinfection) to comply with the rule's performance standards. In 1992, the New York City Water Supply applied for and was granted a filtration avoidance waiver from the USEPA for the Catskill and Delaware supplies, south of the Kensico Reservoir, through December 31, 2002. In 2002 the EPA, upon review of New York City's Watershed Protection Plan, extended the city's federal filtration avoidance waiver for the Catskill and Delaware systems until 2007. In August 2006, EPA issued a report indicating that the NYC DEP had "successfully satisfied its obligations specified in the 2002 Filtration Avoidance Determination (FAD)". Subsequently, in December 2006 the NYC DEP submitted to the EPA its 2006 Long Term Watershed Protection Program in support for renewal of its FAD for the Catskill and Delaware Systems. This program consists of several activities to enhance the protection of the City's water supply system from contamination, degradation and pollution: land acquisition, infrastructure upgrades, protection of the watersheds natural resources, monitoring and modeling, public education and the building of a large scale ultraviolet light disinfection facility to treat the Catskill and Delaware effluents from the Kensico Reservoir. Based upon review and extensive consultations between EPA, NYC DEP, NYSDOH and the NYS DEC the EPA on July 30, 2007 issued a 10 year FAD extension, consisting of two 5 year periods 2007 - 2012 and 2012 – 2017, to the NYCDEP for the Catskill and Delaware systems south of the Kensico Reservoir. According to NYCDEP's Filtration Avoidance Annual Report for period January 1 through December 31, 2011 the DEP in 2011 continued to comply with the substantive requirements of the 2007 FAD. In 1992, the City of Yonkers also applied for and was granted filtration avoidance. This variance is still in effect, contingent on the City of Yonkers' and the City of New York's continued demonstration in meeting the avoidance criteria.

In August 29, 1994, The City of Yonkers' Bureau of Water was granted a Biofilm variance from the New York State Department of Health. This variance recognizes that the Maximum Contaminant Level (MCL) can not be used to determine the public health significance of coliform bacteria being detected in the distribution system, when biofilms, and not contaminated water, are the source of the bacteria. Biofilms are established colonies of bacteria that have been determined not to represent an unreasonable risk to the public health.

On April 10, 2010 the Westchester County Department of Health granted the City of Yonkers reduced 1<sup>st</sup> draw Lead and Copper at the Tap Monitoring, at the reduced number of sampling sites, from annually to once every three [3] years as a result of achieving compliance with the Lead and Copper Action Levels for three consecutive reduced monitoring periods, 2006 through 2009. This reduction in the monitoring frequency of 1<sup>st</sup> draw Lead and Copper sampling is contingent upon the City of Yonkers in meeting the Lead and Copper Action Levels during our next round of Lead and Copper monitoring scheduled for June 1, 2012 through September 30, 2012. In addition, the City must continually demonstrate that its Water System is operating in compliance with the State specified water quality parameter ranges required to maintain optimal system wide Corrosion Control Treatment.

Water Conservation

Why save water and how do we avoid wasting it? Fresh water is a vital and limited resource. The replenishment of the NYC Water Supply is dependent upon nature (rainfall and snowfall). Although at this time of year our supply is plentiful, there are times of the year, especially during drought periods, that the source of our supply (precipitation) is limited. Therefore, it must not be wasted. In addition, saving water saves energy and reduces the cost of energy required to treat and pump water. The City of Yonkers encourages water conservation. You can play a role in conserving water and saving yourself money by becoming conscious of the amount of water your household is using. It is not hard to conserve water. Below are a few simple steps you can take that will preserve this resource and also save up to 30% on your water bill. Additional conservation tips are available @ <http://planning.westchestergov.com/environment/water-conservation>.

- Take shorter showers and save 5 to 7 gallons. Fill the bathtub only halfway and save 10-15 gallons.
  - Don't run the tap unnecessarily e.g. while shaving, brushing your teeth and washing dishes. Flowing faucets use 2 to 3 gallons per minute.
  - Repair all leaks in your plumbing system (check all toilets & faucets). A slow dripping faucet can waste up to 20 gallons per day and a running toilet can waste up to 100 gallons/day
  - Use your water meter to detect hidden leaks. Turn off all taps and water using appliances. Then check the meter after 15 minutes, if it moved you have a leak.
  - Limit watering the lawn to early morning and late evening hours when cooler temperatures won't cause quick evaporation.
  - Don't cut the lawn too short; longer grass saves water.
  - Install low flow showerheads, faucets and toilets.
  - Shut faucets off tightly
- Run the dishwasher only when full. Automatic dishwashers use 15 gallons for every cycle
  - Store drinking water in the refrigerator rather than letting the tap run every time
  - Connect a shut-off nozzle to your hose so water flows only when needed. When finished, turn it off at the spigot to avoid leaks
  - Don't hose down your driveway or sidewalk. Use a broom to clean leaves and debris.
  - Never put water down the drain when there may be another use for it such as watering a plant or garden.
  - Wash your car with a bucket and hose with a nozzle
  - Wash clothing in full loads only, saves 16 to 25 gallons.

Please share this report with others! Landlords, businesses, and other enterprises are encouraged to share this important water quality information with users at their locations. Additional copies of this report may be obtained by contacting The City of Yonkers Water Treatment Plant at (914) 377-6764.

Este informe contiene informacion muy importante sobre su agua beber. Traduzcalo o hable con alguien que lo entienda bien.

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SAVE WATER